SEQUENCE LISTING

<110>   ZHOU, Rouli

        SHAO, Genze

        LIU, Xinrong

        ZHANG, Qingyun

        RUI, Jingan

        ZHANG, Ye

        JIN, Yueying

        LIN, Ming

        ZHANG, Sha

<120>   HUMAN CANCER-RELATED GENE, ITS ENCODED PRODUCTS AND APPLICATIONS

<130>   062331-5002-US

<150>   PCT/CN2003/001109

<151>   2003-12-24

<150>   CN 03109786.3

<151>   2003-04-21

<150>   CN 02158110.X

<151>   2002-12-24

<160>   8

<170>   PatentIn version 3.3

<210> 1

<211> 954

<212> DNA

<213> Homo sapiens

<400> 1

atgacgtcac ggactcgggt cacatggccg agtccgcccc gccccctccc cgtccccgcc   60

gctgcagccg tcgccttcgg agcgaagggt accgacccgg cagaagctcg gagctctcgg   120

ggtatcgagg aggcaggccc gcgggcgcac gggcgagcgg ccgggagcc ggagcggcgg   180

aggagccggc agcagcggcg cggcgggctc caggcgaggc ggtcgacgct cctgaaaact   240

tgcgcgcgcg ctcgcgccac tgcgcccgga gcgatgaaga tggtcgcgcc ctggacgcgg   300

ttctactcca acagctgctg cttgtgctgc catgtccgca ccggcaccat cctgctcggc   360

gtctggtatc tgatcatcaa tgctgtggta ctgttgattt tattgagtgc cctggctgat   420

ccggatcagt ataactttc aagttctgaa ctgggaggtg actttgagtt catggatgat   480

gccaacatgt gcattgccat tgcgatttct cttctcatga tcctgatatg tgctatggct   540

acttacggag cgtacaagca acgcgcagcc tggatcatcc cattcttctg ttaccagatc   600

tttgactttg ccctgaacat gttggttgca atcactgtgc ttatttatcc aaactccatt   660

caggaataca tacggcaact gcctcctaat tttccctaca gagatgatgt catgtcagtg   720

aatcctacct gtttggtcct tattattctt ctgtttatta gcattatctt gactttttaag   780

ggttacttga ttagctgtgt ttggaactgc taccgataca tcaatggtag gaactcctct   840

gatgtcctgg tttatgttac cagcaatgac actacggtgc tgctacccccc gtatgatgat   900

gccactgtga atggtgctgc caaggagcca ccgccacctt acgtgtctgc ctaa   954

<210> 2

<211> 1440

<212> DNA

<213> Homo sapiens

<400> 2

gccgactagg ggactggcgg agggtgcacg ctgatggatt tactcaccgg gtgcttggag   60

ctccagcagc tggctggagc ccgcgatgac gtcacggact cgggtcacat ggccgagtcc   120

gccccgcccc ctccccgtcc ccgccgctgc agccgtcgcc ttcggagcga agggtaccga   180

cccggcagaa gctcggagct ctcggggtat cgaggaggca ggcccgcggg cgcacgggcg   240

agcgggccgg gagccggagc ggcggaggag ccggcagcag cggcgcggcg ggctccaggc   300

```
gaggcggtcg acgctcctga aaacttgcgc gcgcgctcgc gccactgcgc ccggagcgat      360

gaagatggtc gcgccctgga cgcggttcta ctccaacagc tgctgcttgt gctgccatgt      420

ccgcaccggc accatcctgc tcggcgtctg gtatctgatc atcaatgctg tggtactgtt      480

gattttattg agtgccctgg ctgatccgga tcagtataac ttttcaagtt ctgaactggg      540

aggtgacttt gagttcatgg atgatgccaa catgtgcatt gccattgcga tttctcttct      600

catgatcctg atatgtgcta tggctactta cggagcgtac aagcaacgcg cagcctggat      660

catcccattc ttctgttacc agatctttga ctttgccctg aacatgttgg ttgcaatcac      720

tgtgcttatt tatccaaact ccattcagga atacatacgg caactgcctc ctaattttcc      780

ctacagagat gatgtcatgt cagtgaatcc tacctgtttg gtccttatta ttcttctgtt      840

tattagcatt atcttgactt ttaagggtta cttgattagc tgtgtttgga actgctaccg      900

atacatcaat ggtaggaact cctctgatgt cctggtttat gttaccagca atgacactac      960

ggtgctgcta cccccgtatg atgatgccac tgtgaatggt gctgccaagg agccaccgcc     1020

accttacgtg tctgcctaag ccttcaagtg ggcggagctg agggcagcag cttgactttg     1080

cagacatctg agcaatagtt ctgttatttc acttttgcca tgagcctctc tgagcttgtt     1140
```

tgttgctgaa atgctacttt ttaaaattta gatgttagat tgaaaactgt agttttcaac   1200

atatgctttg ctggaacact gtgatagatt aactgtagaa ttcttcctgt acgattgggg   1260

atataatggg cttcactaac cttccctagg cattgaaact tcccccaaat ctgatggacc   1320

tagaagtctg cttttgtacc tgctgggccc caaagttggg catttttctc tctgttccct   1380

ctcttttgaa aatgtaaaat aaaaccaaaa atagaccaaa aaaaaaaaaa aaaaaaaaaa   1440

<210> 3

<211> 2169

<212> DNA

<213> Homo sapiens

<400> 3

gccgactagg ggactggcgg agggtgcacg ctgatggatt tactcaccgg gtgcttggag   60

ctccagcagc tggctggagc ccgcgatgac gtcacggact cgggtcacat ggccgagtcc   120

gccccgcccc ctccccgtcc ccgccgctgc agccgtcgcc ttcggagcga agggtaccga   180

cccggcagaa gctcggagct ctcggggtat cgaggaggca ggcccgcggg cgcacgggcg   240

agcgggccgg gagccggagc ggcggaggag ccggcagcag cggcgcggcg ggctccaggc   300

gaggcggtcg acgctcctga aaacttgcgc gcgcgctcgc gccactgcgc ccggagcgat   360

```
gaagatggtc gcgccctgga cgcggttcta ctccaacagc tgctgcttgt gctgccatgt      420



ccgcaccggc accatcctgc tcggcgtctg gtatctgatc atcaatgctg tggtactgtt      480



gattttattg agtgccctgg ctgatccgga tcagtataac ttttcaagtt ctgaactggg      540



aggtgacttt gagttcatgg atgatgccaa catgtgcatt gccattgcga tttctcttct      600



catgatcctg atatgtgcta tggctactta cggagcgtac aagcaacgcg cagcctggat      660



catcccattc ttctgttacc agatctttga ctttgccctg aacatgttgg ttgcaatcac      720



tgtgcttatt tatccaaact ccattcagga atacatacgg caactgcctc ctaattttcc      780



ctacagagat gatgtcatgt cagtgaatcc tacctgtttg gtccttatta ttcttctgtt      840



tattagcatt atcttgactt ttaaggggtta cttgattagc tgtgtttgga actgctaccg      900



atacatcaat ggtaggaact cctctgatgt cctggtttat gttaccagca atgacactac      960



ggtgctgcta cccccgtatg atgatgccac tgtgaatggt gctgccaagg agccaccgcc     1020



accttacgtg tctgcctaag ccttcaagtg ggcggagctg agggcagcag cttgactttg     1080



cagacatctg agcaatagtt ctgttatttc acttttgcca tgagcctctc tgagcttgtt     1140



tgttgctgaa atgctacttt ttaaaattta gatgttagat tgaaaactgt agttttcaac     1200
```

```
atatgctttg ctggaacact gtgatagatt aactgtagaa ttcttcctgt acgattgggg   1260

atataatggg cttcactaac cttccctagg cattgaaact tcccccaaat ctgatggacc   1320

tagaagtctg cttttgtacc tgctgggccc caaagttggg catttttctc tctgttccct   1380

ctcttttgaa aatgtaaaat aaaaccaaaa atagacaact ttttcttcag ccattccagc   1440

atagagaaca aaaccttatg gaaacaggaa tgtcaattgt gtaatcattg ttctaattag   1500

gtaaatagaa gtccttatgt atgtgttaca agaatttccc ccacaacatc ctttatgact   1560

gaagttcaat gacagtttgt gtttggtggt aaaggatttt ctccatggcc tgaattaaga   1620

ccattagaaa gcaccaggcc gtgggagcag tgaccatctg ctgactgttc ttgtggatct   1680

tgtgtccagg gacatggggt gacatgcctc gtatgtgtta gagggtggaa tggatgtgtt   1740

tggcgctgca tgggatctgg tgcccctctt ctcctggatt cacatcccca cccagggccc   1800

gcttttacta agtgttctgc cctagattgg ttcaaggagg tcatccaact gactttatcg   1860

agtggaattg ggatatattt gatatacttc tgcctaacaa catggaaaag ggttttcttt   1920

tccctgcaag ctacatccta ctgctttgaa cttccaagta tgtctagtca ccttttaaaa   1980

tgtaaacatt ttcagaaaaa tgaggattgc cttccttgta tgcgcttttt accttgacta   2040
```

cctgaattgc aagggatttt tatatattca tatgttacaa agtcagcaac tctcctgttg   2100

gttcattatt gaatgtgctg taaattaagt tgtttgcaat taaaacaagg tttgcccaca   2160

aaaaaaaaa   2169

<210> 4

<211> 317

<212> PRT

<213> Homo sapiens

<400> 4

Met Thr Ser Arg Thr Arg Val Thr Trp Pro Ser Pro Pro Arg Pro Leu
1   5   10   15

Pro Val Pro Ala Ala Ala Ala Val Ala Phe Gly Ala Lys Gly Thr Asp
                20   25   30

Pro Ala Glu Ala Arg Ser Ser Arg Gly Ile Glu Glu Ala Gly Pro Arg
            35   40   45

Ala His Gly Arg Ala Gly Arg Glu Pro Glu Arg Arg Arg Ser Arg Gln

50   55   60

Gln Arg Arg Gly Gly Leu Gln Ala Arg Arg Ser Thr Leu Leu Lys Thr
65   70   75   80

Cys Ala Arg Ala Arg Ala Thr Ala Pro Gly Ala Met Lys Met Val Ala
                         85   90   95

Pro Trp Thr Arg Phe Tyr Ser Asn Ser Cys Cys Leu Cys Cys His Val
                        100   105   110

Arg Thr Gly Thr Ile Leu Leu Gly Val Trp Tyr Leu Ile Ile Asn Ala
                        115   120   125

Val Val Leu Leu Ile Leu Leu Ser Ala Leu Ala Asp Pro Asp Gln Tyr
                        130   135   140

Asn Phe Ser Ser Ser Glu Leu Gly Gly Asp Phe Glu Phe Met Asp Asp
145   150   155   160

Ala Asn Met Cys Ile Ala Ile Ala Ile Ser Leu Leu Met Ile Leu Ile

165   170   175

Cys Ala Met Ala Thr Tyr Gly Ala Tyr Lys Gln Arg Ala Ala Trp Ile
        180   185   190

Ile Pro Phe Phe Cys Tyr Gln Ile Phe Asp Phe Ala Leu Asn Met Leu
        195   200   205

Val Ala Ile Thr Val Leu Ile Tyr Pro Asn Ser Ile Gln Glu Tyr Ile
    210   215   220

Arg Gln Leu Pro Pro Asn Phe Pro Tyr Arg Asp Asp Val Met Ser Val
225   230   235   240

Asn Pro Thr Cys Leu Val Leu Ile Ile Leu Leu Phe Ile Ser Ile Ile
        245   250   255

Leu Thr Phe Lys Gly Tyr Leu Ile Ser Cys Val Trp Asn Cys Tyr Arg
        260   265   270

Tyr Ile Asn Gly Arg Asn Ser Ser Asp Val Leu Val Tyr Val Thr Ser

275   280   285

Asn Asp Thr Thr Val Leu Leu Pro Pro Tyr Asp Asp Ala Thr Val Asn

   290   295   300

Gly Ala Ala Lys Glu Pro Pro Pro Pro Tyr Val Ser Ala

305   310   315

<210> 5

<211> 226

<212> PRT

<213> Homo sapiens

<400> 5

Met Lys Met Val Ala Pro Trp Thr Arg Phe Tyr Ser Asn Ser Cys Cys

1   5   10   15

Leu Cys Cys His Val Arg Thr Gly Thr Ile Leu Leu Gly Val Trp Tyr

          20   25   30

Leu Ile Ile Asn Ala Val Val Leu Leu Ile Leu Leu Ser Ala Leu Ala

          35   40   45

Asp Pro Asp Gln Tyr Asn Phe Ser Ser Ser Glu Leu Gly Gly Asp Phe
    50   55   60

Glu Phe Met Asp Asp Ala Asn Met Cys Ile Ala Ile Ala Ile Ser Leu
65   70   75   80

Leu Met Ile Leu Ile Cys Ala Met Ala Thr Tyr Gly Ala Tyr Lys Gln
                85   90   95

Arg Ala Ala Trp Ile Ile Pro Phe Phe Cys Tyr Gln Ile Phe Asp Phe
            100   105   110

Ala Leu Asn Met Leu Val Ala Ile Thr Val Leu Ile Tyr Pro Asn Ser
            115   120   125

Ile Gln Glu Tyr Ile Arg Gln Leu Pro Pro Asn Phe Pro Tyr Arg Asp
            130   135   140

Asp Val Met Ser Val Asn Pro Thr Cys Leu Val Leu Ile Ile Leu Leu
145   150   155   160

Phe Ile Ser Ile Ile Leu Thr Phe Lys Gly Tyr Leu Ile Ser Cys Val
            165   170   175

Trp Asn Cys Tyr Arg Tyr Ile Asn Gly Arg Asn Ser Ser Asp Val Leu
            180   185   190

Val Tyr Val Thr Ser Asn Asp Thr Thr Val Leu Leu Pro Pro Tyr Asp
            195   200   205

Asp Ala Thr Val Asn Gly Ala Ala Lys Glu Pro Pro Pro Pro Tyr Val
    210   215   220

Ser Ala
225

<210>   6

<211>   2264

<212>   DNA

<213>   Homo sapiens

<400>   6

```
gaatctcgac ccttgaatgg agttacacga acggccagat gaaagaagga aggcccggac      60

ctccactcag ggccgactag gggactggcg gagggtgcac gctgatggat ttactcaccg     120

ggtgcttgga gctccagcag ctgcttggag ctccagcagc tggctggagc ccgcgatgac     180

gtcacggact cgggtcacat ggccgagtcc gccccgcccc ctccccgtcc ccgccgctgc     240

agccgtcgcc ttcggagcga agggtaccga cccggcagaa gctcggagct ctcggggtat     300

cgaggaggca ggcccgcggg cgcacgggcg agcgggccgg gagccggagc ggcggaggag     360

ccggcagcag cggcgcggcg ggctccaggc gaggcggtcg acgctcctga aaacttgcgc     420

gcgcgctcgc gccactgcgc ccggagcgat gaagatggtc gcgccctgga cgcggttcta     480

ctccaacagc tgctgcttgt gctgccatgt ccgcaccggc accatcctgc tcggcgtctg     540

gtatctgatc atcaatgctg tggtactgtt gattttattg agtgccctgg ctgatccgga     600

tcagtataac ttttcaagtt ctgaactggg aggtgacttt gagttcatgg atgatgccaa     660

catgtgcatt gccattgcga tttctcttct catgatcctg atatgtgcta tggctactta     720

cggagcgtac aagcaacgcg cagcctggat catcccattc ttctgttacc agatctttga     780

ctttgccctg aacatgttgg ttgcaatcac tgtgcttatt tatccaaact ccattcagga     840
```

```
atacatacgg caactgcctc ctaattttcc ctacagagat gatgtcatgt cagtgaatcc      900

tacctgtttg gtccttatta ttcttctgtt tattagcatt atcttgactt ttaagggtta      960

cttgattagc tgtgtttgga actgctaccg atacatcaat ggtaggaact cctctgatgt     1020

cctggtttat gttaccagca atgacactac ggtgctgcta cccccgtatg atgatgccac     1080

tgtgaatggt gctgccaagg agccaccgcc accttacgtg tctgcctaag ccttcaagtg     1140

ggcggagctg agggcagcag cttgactttg cagacatctg agcaatagtt ctgttatttc     1200

acttttgcca tgagcctctc tgagcttgtt tgttgctgaa atgctacttt ttaaaattta     1260

gatgttagat tgaaaactgt agttttcaac atatgctttg ctggaacact gtgatagatt     1320

aactgtagaa ttcttcctgt acgattgggg atataatggg cttcactaac cttccctagg     1380

cattgaaact tcccccaaat ctgatggacc tagaagtctg cttttgtacc tgctgggccc     1440

caaagttggg cattttctc tctgttccct ctcttttgaa aatgtaaaat aaaaccaaaa     1500

atagacaact ttttcttcag ccattccagc atagagaaca aaaccttatg gaaacaggaa     1560

tgtcaattgt gtaatcattg ttctaattag gtaaatagaa gtccttatgt atgtgttaca     1620

agaatttccc ccacaacatc ctttatgact gaagttcaat gacagtttgt gtttggtggt     1680
```

aaaggatttt ctccatggcc tgaattaaga ccattagaaa gcaccaggcc gtgggagcag   1740

tgaccatctg ctgactgttc ttgtggatct tgtgtccagg gacatggggt gacatgcctc   1800

gtatgtgtta gagggtggaa tggatgtgtt tggcgctgca tgggatctgg tgcccctctt   1860

ctcctggatt cacatcccca cccagggccc gcttttacta agtgttctgc cctagattgg   1920

ttcaaggagg tcatccaact gactttatcg agtggaattg ggatatattt gatatacttc   1980

tgcctaacaa catggaaaag ggttttcttt tccctgcaag ctacatccta ctgctttgaa   2040

cttccaagta tgtctagtca ccttttaaaa tgtaaacatt ttcagaaaaa tgaggattgc   2100

cttccttgta tgcgcttttt accttgacta cctgaattgc aagggatttt tatatattca   2160

tatgttacaa agtcagcaac tctcctgttg gttcattatt gaatgtgctg taaattaagt   2220

tgtttgcaat taaaacaagg tttgcccaca aaaaaaaaaa aaaa   2264

<210> 7

<211> 370

<212> PRT

<213> Homo sapiens

<400> 7

Met Glu Leu His Glu Arg Pro Asp Glu Arg Arg Lys Ala Arg Thr Ser
1   5   10   15

Thr Gln Gly Arg Leu Gly Asp Trp Arg Arg Val His Ala Asp Gly Phe
            20   25   30

Thr His Arg Val Leu Gly Ala Pro Ala Ala Ala Trp Ser Ser Ser Ser
            35   40   45

Trp Leu Glu Pro Ala Met Thr Ser Arg Thr Arg Val Thr Trp Pro Ser
    50   55   60

Pro Pro Arg Pro Leu Pro Val Pro Ala Ala Ala Ala Val Ala Phe Gly
65   70   75   80

Ala Lys Gly Thr Asp Pro Ala Glu Ala Arg Ser Ser Arg Gly Ile Glu
                85   90   95

Glu Ala Gly Pro Arg Ala His Gly Arg Ala Gly Arg Glu Pro Glu Arg
                100   105   110

```
Arg Arg Ser Arg Gln Gln Arg Arg Gly Gly Leu Gln Ala Arg Arg Ser
        115                 120                 125

Thr Leu Leu Lys Thr Cys Ala Arg Ala Arg Ala Thr Ala Pro Gly Ala
        130                 135                 140

Met Lys Met Val Ala Pro Trp Thr Arg Phe Tyr Ser Asn Ser Cys Cys
145                 150                 155                 160

Leu Cys Cys His Val Arg Thr Gly Thr Ile Leu Leu Gly Val Trp Tyr
                165                 170                 175

Leu Ile Ile Asn Ala Val Val Leu Leu Ile Leu Leu Ser Ala Leu Ala
                180                 185                 190

Asp Pro Asp Gln Tyr Asn Phe Ser Ser Ser Glu Leu Gly Gly Asp Phe
        195                 200                 205

Glu Phe Met Asp Asp Ala Asn Met Cys Ile Ala Ile Ala Ile Ser Leu
        210                 215                 220
```

Leu Met Ile Leu Ile Cys Ala Met Ala Thr Tyr Gly Ala Tyr Lys Gln
225   230   235   240

Arg Ala Ala Trp Ile Ile Pro Phe Phe Cys Tyr Gln Ile Phe Asp Phe
                245   250   255

Ala Leu Asn Met Leu Val Ala Ile Thr Val Leu Ile Tyr Pro Asn Ser
            260   265   270

Ile Gln Glu Tyr Ile Arg Gln Leu Pro Pro Asn Phe Pro Tyr Arg Asp
        275   280   285

Asp Val Met Ser Val Asn Pro Thr Cys Leu Val Leu Ile Ile Leu Leu
    290   295   300

Phe Ile Ser Ile Ile Leu Thr Phe Lys Gly Tyr Leu Ile Ser Cys Val
305   310   315   320

Trp Asn Cys Tyr Arg Tyr Ile Asn Gly Arg Asn Ser Ser Asp Val Leu
                325   330   335

```
Val Tyr Val Thr Ser Asn Asp Thr Thr Val Leu Leu Pro Pro Tyr Asp
         340                 345                 350
```

```
Asp Ala Thr Val Asn Gly Ala Ala Lys Glu Pro Pro Pro Pro Tyr Val
         355                 360                 365
```

```
Ser Ala
    370
```

<210> 8

<211> 1341

<212> DNA

<213> Homo sapiens

<400> 8

```
gctccaggtg gaagagtgtg cagctgcaag atttaataga gtgaaaacag ctcccataca      60

gtgggcgggg acccaaaggg ggttgcccac tcccggctgg aatgcctggg gtttatatcc     120

caatcattgt ccctcccct gtgctctcag atgatagatg atttgactat ttctttacct      180

cttgctttta gcttaattgg tgttttagtg agcccttttt actacctgat tggtcaggtg     240

tgagctgagt tacaagcccc atgtttaagg gtgggtgcgg tccccttccc caggtaggtt     300
```

taggaattct tagtcgcccc aggaaatccg ctactcttgt ctctcactgg gattacaggc   360

gtgagccacc gcgcccagcc aattttggta tttttttgtag agccagggtt tcgccatgtt   420

gcccaggctg ggactgaatc tttagagctg cactcatgat taaaaacgct gtgccaggcg   480

ttgtggctca cgcctgtaat cccagcactt tgggaggctg aggcgggcgg atcacgaggt   540

cagaagatcg agaccatcct ggctaacacg gtgaaacccc gtctctactg aaaatacaac   600

aaattagcca ggcgtggtgg cgggcgcctg tagtcccagc tactagggag gctgaggcag   660

gagaatggcg tgaacccggg aggtggagct tgcagtgagc cgagatcgca ccactgcact   720

ccagcctggg tgacagagca agactctgtc tcaaaaaaaa aaaaaaaaaa aaaaaaaaaa   780

agctaccgga agcacagcga ggatgtcctt gacacacatc ctattttctg ggaaaagatt   840

actaccacag taattgagct gtgaagcgga gacaaattgc tctcggtggt ggttcaaagt   900

actgcaattg actggaatag caccgcgcag ttttccttcc tctcgtgcaa gataagagtg   960

ataggagctg tatcgattac ctgcaagata gaagtagaag cgggccgggt gcggtggctc   1020

acgcctgtaa tcccagcact ttgggaggct gaggcgggtg gatcattcga cgtcaggagt   1080

tccagaccag cctgaccaac atggtgaaac cccgtctcta ctaaaaatac aacaaattag   1140

```
ccgggtgtgg tggcaagcgc ctgtaatccc agctactcgg ttggttgggc aggagaatcg   1200


cttgaacccg ggaggcggag gttgcagtga gccgagatcg cgccattgca ctccagcctg   1260


ggcgacaaga gcgagactct gtctcaaaaa aaaaaaaaaa agaagtagaa gggaagaaaa   1320


tcgcaaggaa ctagactaaa a                                             1341
```